





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MASSACHUSETTS 02114-2023

MEMORANDUM

Date: June 15, 1999

Subject: National Remedy Review Board (NRRB)
Massachusetts Military Reservation Superfund Site
Southwest Operable Unit (SWOU)

To: Bruce K. Means, Chair
National Remedy Review Board

From:  Patricia L. Meaney, Director 
Office of Site Remediation and Restoration
Region 1

The EPA Region 1 Office of Site Remediation and Restoration has completed its review of your memorandum entitled "National Remedy Review Board Recommendations for the Southwest Operable Unit for Groundwater at the Massachusetts Military Reservation (MMR) Superfund Site." Your memorandum contained six NRRB advisory recommendations. The Region's responses can be found below.

- The material presented to the board describes a three step process for determining how far this action may be driven (i.e., how much ground water restoration may be required, ultimately). Step one would restore the plumes to federal or state MCLs and other risk- based contaminant levels equivalent to a Hazard Index of 1; step two would involve a cumulative risk assessment for any residual contamination to assess whether additional restoration should be performed to achieve more protective cleanup levels within EPA's risk range; and, step three would evaluate the feasibility of yet additional restoration to achieve background levels. Since, however, the package presented to the board provided only analyses specific to the decision about restoration to MCLs, the board's discussion focused primarily on this first step in the process.

The Region notes your comment that the NRRB's discussion focused primarily on the first step of the three-step process to achieve remedial action objectives.

- Given that the proposed action is described as a three step process and may involve significant analyses and/or resource expenditures in the future, the board is concerned that the action is framed as a "final" record of decision (ROD). The board believes that the Air Force Center for Environmental Excellence (AFCEE) should address the decision steps in separate actions and consider the action to restore ground water to MCLs an "interim" action. This would permit (1) the continued evaluation of additional restoration needs, (2) any subsequent actions if warranted and feasible, and, (3) important opportunities for stakeholder involvement in these later restoration decisions.

The Region acknowledges the board's concerns with framing actions for the SWOU as a "final" record of decision (ROD) given the three step process. We have discussed this recommendation with the Air Force Center for Environmental Excellence (AFCEE) and have jointly determined

that an alternative approach to the one you recommend above is preferable and would address the concerns you have raised. This approach is contained in a letter from AFCEE to EPA Remedial Project Manager, Paul Marchessault, which is attached for your reference. The Region has reviewed AFCEE's letter and concurs with the approach outlined therein.

- The AFCEE did not evaluate air stripping as a ground water treatment alternative for the plumes addressed by this OU. The board notes that at other sites air stripping has been a cost effective method to treat contaminated ground water, and further, that it is identified as a "presumptive technology for treatment of extracted ground water" in OSWER Directive 9283.1-12 (Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites). The board asks the region to explain why it did not recommend that AFCEE retain air stripping among the treatment alternatives it evaluated in detail for this action.

There are several reasons why air stripping was not evaluated in detail in the feasibility study. At MMR, AFCEE has agreed to treat extracted groundwater to non-detect levels. Given this agreement, air stripping was not carried into detailed analysis because it was determined that the costs for this technology were similar to granulated activated carbon. Additionally, MMR resides in an ozone non-attainment area. Thus, if air strippers were to be used, they would also be required to have carbon treatment. Therefore, for this reason, the National Guard Bureau, and then AFCEE, determined it was more efficient and cost-effective to only deal with one treatment train. From an operation and maintenance standpoint, AFCEE prefers liquid-phase granulated activated carbon over air stripping towers since air stripping towers tend to foul and produce an additional waste stream (i.e., sludge). Consequently, all groundwater treatment systems in operation (i.e., CS-4, FS-12, SD-5 North, FS-28, and FS-1) and construction (i.e., Ashumet Valley, LF-1, and CS-10) use granulated activated carbon.

- Materials presented to the board did not specify how the preferred alternative for the FS 13 plume achieves remedial action objectives (which include plume restoration) within a reasonable time frame. Given that the Massachusetts Comprehensive State Groundwater Protection Plan classifies this aquifer as a sole source aquifer of the highest priority, the region should clarify how and when AFCEE expects to achieve these objectives throughout the plume. Should the region determine that active restoration of the plume or any part of it is not among the remedial action objectives (RAOs) for this action, it should provide the supporting analysis and decision rationale in the site decision documents (e.g., triggers and details for invoking a future restoration contingency action; bases for a technical impracticability waiver, etc.).

The NRRB is correct in noting that the presentation materials did not specify how the preferred alternative for FS-13, limited action with monitoring and institutional controls, would achieve the remedial action objectives, particularly restoration of the aquifer within a reasonable timeframe. The Region would like to clarify that AFCEE expects to achieve restoration of the aquifer through degradation. AFCEE's contractor has conservatively estimated 15 years to reach the cleanup levels for 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. Based on investigation data, FS-13 is believed to be a stable plume (i.e., no migration of contaminants and degradation occurring). Confirmation of degradation and the restoration timeframe estimate will be accomplished through a long-term monitoring program. If monitoring results indicate a change in condition, active treatment will be evaluated and implemented, if needed.

- The preferred alternative does not specify the institutional controls that will be used to restrict certain ground water uses. OSWER Guidance No. 9355.7-04 "Land Use in the CERCLA Remedy Selection Process" (May 25, 1995) directs site managers to " . . . determine the type of institutional control to be used, the existence of the authority to implement the institutional control, and the appropriate entity's

resolve and ability to implement ... the control." The Board recommends that the AFCEE perform such an analysis and include it in the decision documents for this action.

The Region agrees that institutional controls need to be added to the alternatives being evaluated in the ROD and has repeatedly requested that AFCEE include them in the FS. To date, we have had several discussions with AFCEE, the State and the local Board of Health regarding the appropriate form of such restrictions. We have agreed that the final FS and Proposed Plan will reference institutional controls in a general manner, but that specificity will be required in the ROD.

The SWOU plumes extend under an active military base, a State-owned wildlife management area, and extensive areas of privately-owned residential property in the Town of Falmouth, Massachusetts. Therefore, different types of controls will be needed depending on the land use at issue. On-base institutional controls reside with the Base Civil Engineer who must approve of all construction projects including water supply wells. Currently, residents and workers on the base obtain drinking water from the base water supply system. Moreover, construction of a new water supply well would require MADEP permit approval. EPA is negotiating with AFCEE to include detailed procedures in the Base Master Plan which the Base Civil Engineer would follow in reviewing any proposal to drill a well on the MMR property. The ROD will require that these procedures remain in place until groundwater is restored to drinking water standards.

For residential areas, EPA, AFCEE and MADEP have had discussions with the local Board of-Health regarding the benefits of promulgating a well-drilling by-law. This by-law would limit access to contaminated groundwater by future private residents (AFCEE has already committed to providing public water supply hookups to current residents over or in close proximity to the SWOU plumes). A draft by-law has just been issued and the final should be in place prior to ROD signature. Finally, any future well drilling requires approval of the Massachusetts State Legislature where plumes underlie the State-owned wildlife management area. All of the institutional controls mentioned above will be discussed in detail in the ROD.

- Given that the treated water will be reinjected, the board recommends that the AFCEE evaluate whether the state underground injection code is an applicable or relevant and appropriate requirement (ARAR) for this action.

The Region agrees that underground injection control regulations (UICs) are applicable or relevant and appropriate requirements (ARARs) for the SWOU alternatives that will involve discharge of treated groundwater to infiltration galleries and/or reinjection wells. Therefore, the Federal and State UICs have been added to the ARARs tables.

Should you have any questions, please contact Mike Jasinski at (617) 918-1352 or Robert Lim at (617) 918-1392.

cc.	S. Luftig	J. Woolford	OERR Regional Center. Directors
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DEPARTMENT OF THE AIR FORCE
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9 Jun 1999

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Mr. Paul Marchessault
U.S. Environmental Protection Agency
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Boston, MA 02114-2023

Dear Mr. Marchessault

Pursuant to our discussions we are providing by this letter our comments and proposal concerning the Interim Record of Decision (ROD) issue raised by the Environmental Protection Agency's (EPA) Remedy Review Board (RRB), regarding the proposed remedial action for the Southwest Operable Unit (SWOU) at the Massachusetts Military Reservation (MMR). The RRB recommended that the Air Force Center for Environmental Excellence (AFCEE) issue an Interim Record of Decision (ROD) at this time due to the possibility of significant analyses and/or resource expenditures inherent in final site closeout decisions (i.e., applying a future three-step decision-making process for determining the final extent of groundwater cleanup).

AFCEE appreciates the RRB's concern for continued evaluation of additional restoration needs including a full evaluation of any subsequent actions, if necessary, and an opportunity for continued stakeholder involvement in such subsequent decisions. AFCEE believes that the proposal outlined below satisfies these requirements while allowing AFCEE, as the lead agent on the site, to achieve a definite and final ROD for these groundwater plumes now.

AFCEE believes that a final ROD for these groundwater plumes is appropriate and is extremely desirable now. These plumes are well characterized. The goal of the proposed remedial actions is to achieve full aquifer restoration rather than containment or "hot spot" cleanup more typically associated with an interim remedy. The field work and modeling necessary to initiate the design of effective and permanent remedies has been accomplished. The predicted effect of the proposed remedies is well known and is not controversial for these sites. AFCEE believes that as the lead agent for these sites we owe the public, the State, EPA and the funding parties as much certainty and finality as possible concerning the proposal and commitment to achieve cleanup goals.

AFCEE is also sensitive to the RRB's concerns regarding the need for a well defined process including adequate stakeholder involvement should the need for continued or substantial additional work (including substantial additional funding) arise as part of implementation of steps two or three of the aforementioned three-step decision-making process. Therefore, we

propose that the ROD be issued as a final document, provided that it contains specific language which would commit the lead agent to execute a ROD Amendment in the event that additional cleanup necessitated by implementation of steps two and/or three results in a fundamental change to the remedial approach, cleanup levels and/or costs documented in the final ROD. AFCEE would agree in the ROD to evaluate any such additional actions against the criteria set forth in EPA's "Guidance for Preparing Superfund Remedial Decision Documents, Final Review Draft, OSWER No. 9200.1-23 (June 1998)" or the final guidance if issued prior to execution of the ROD. Moreover, preparation of a ROD Amendment would allow for ample regulatory oversight and stakeholder involvement through issuance of a new Proposed Plan and conduct of a public comment period.

We sincerely hope that this commitment will satisfy the RRB's concerns and will allow us to proceed expeditiously with issuance of the final ROD.

Sincerely



JIM F. SNYDER

Remediation Program Manager

cc:

HQ AFCEE/ERD (Lt Col Lyon)

MADEP (Mr. Pinaud)